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EXAMINER

WAI, ERIC CHARLES

ART UNIT

PAPER NUMBER

2195

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/530,575	<b>Applicant(s)</b> JACKSON, DAVID B.	
	<b>Examiner</b> ERIC C. WAI	<b>Art Unit</b> 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 10-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/18, 4/8/08, 9/21/09</u> .                                   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-16 are presented for examination.

#### ***Specification***

2. The disclosure is objected to because of the following informalities: Applicant is advised to update the specification to include the Application numbers of all related applications.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 15-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
5. Claim 15 is rejected because the claimed invention, appearing to be comprised of software alone without claiming associated computer hardware required for execution, is not supported by either a specific and substantial asserted utility (i.e., transformation of data) or a well established utility (i.e. a practical application). Applicant is advised to amend the claim to include a hardware processor and memory.
6. Claim 16 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to a signal directly or

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indirectly by claiming a medium and the Specification recites evidence where the computer readable medium is define as a "wave" (such as wireless connection, see paragraph [00107] of the specification). In that event, the claims are directed to a form of energy which at present the office feels does not fall into a category of invention. The following link on the World Wide Web is for the United States Patent And Trademark Office (USPTO) policy on 35 U.S.C. §101.

[http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101\\_20051026.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf)

### ***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The following terms lack antecedent basis in the claims:

- i. Claim 7, "the first composite map", "the second composite map".
- ii. Claim 9, "the first composite map".
- iii. Claim 10, "the second composite map".

b. The following terms are not clearly understood:

- iv. Claim 1 line 9 recites, "a first type of resource mapping". It is unclear whether this is the same or different mapping than "a first type of

resource mapping" in line 6. If it is the same, "the" of "said" should be used to reference the mapping. Line 11 recites, "a second type of resource mapping". It is unclear whether this is the same or different mapping than "a second type of resource mapping" in line 6. If it is the same, "the" of "said" should be used to reference the mapping.

v. Claims 15 and 16 are rejected for the same reasons as claim 1.

vi. Claim 15 recites a system, but the preamble also includes "the method comprising". The body of the claims lists various modules and their functionalities. Method includes steps and it is unclear how a method can include modules.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 3-8, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gao et al. (US PG Pub No. US 2006/0250977 A1).

11. Regarding claim 1, Gao teaches a method of processing a request for resources within a compute environment comprising a plurality of interconnected compute nodes under common management (Fig 1, [0047]), the method comprising:

receiving a request for resources in the compute environment to be consumed for a job ([0007], wherein a query is initiated);

generating a credential map for each credential associated with the request, the credential map comprising a first type of resource mapping and a second type of resource mapping ([0053], wherein the request indicates or “maps” how many resources are needed to satisfy the request is created; [0054], wherein each request indicates or “maps” the required duration of the request);

generating a resource availability map ([0053], [0067], wherein a mapping of available segments is created);

generating a first composite intersecting map that intersects the resource availability map with a first type of resource mapping of all the generated credential maps ([0053],[0068], wherein a new reservation entry for the duration of the segment is generated based on combining or “intersecting” the available segments with the request);

allocating resources within the compute environment for the request based on at least one of the first composite intersecting map and the second composite intersecting map ([0053], wherein the reservation is made based on the combining the request with the resource availability map).

12. Gao does not explicitly teach generating a second composite intersecting map that intersects the resource availability map and a second type of resource mapping of all the generated credential maps, however Gao does teach taking into account the duration of the resource request reservation to remove reservations from the

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reservation list (i.e. intersecting the request duration map with the first composite intersecting map to generate a second composite map) ([0054]).

13. It would have been obvious to one of ordinary skill to generate a second composite intersecting map using the resource availability map and a second type of resource mapping. As the claim does not require allocation based on the second composite intersecting map, one would be motivated by a design decision to generate various intersecting maps by intersecting the resource availability map with some type of resource mapping.

14. Regarding claim 3, Gao teaches that the request is a request for one of a job or a reservation ([0007], wherein a reservation query is initiated).

15. Regarding claims 4-5, Gao teaches that the request further comprises at least one credential, wherein the at least one credential comprises at least one of: a user, a group, a number of processors, a number of jobs, a quality of service, a number of nodes, a bandwidth, licensing availability, a time frame and a cost ([0053], wherein the request indicates or “maps” how many resources are needed to satisfy the request is created; [0054], wherein each request indicates or “maps” the required duration of the request).

16. Regarding claim 6, Gao teaches that each credential map is time-based (Fig 5).

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17. Regarding claim 7, Gao teaches that after generating the first composite map and the second composite map, the method comprises:

optimizing a time frame for reserving resources for the request based on one of the first composite map or the second composite map ([0053-54], wherein an optimal timeframe for the reservation is selected based on the intersecting).

18. Regarding claim 8, Gao teaches that the optimized time frame is one of:

the earliest time frame that the allocation of resources may be made and the time frame which will make the most efficient use of the compute resources ([0064-0070], wherein the method seeks to allocate the resources based on the earliest available time frame).

19. Regarding claim 15-16, they are the system and medium claims of claim 1 above. Therefore they are rejected for the same reasons as claim 1 above.

20. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gao et al. (US PG Pub No. US 2006/0250977 A1) in view of Turner et al. (US PG Pub No. US 2006/0179106 A1).

21. Regarding claim 2, Gao teaches that the first type of resource mapping is a reserved resource mapping ([0053-54], wherein resources are reserved).



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22. Gao does not teach that the second type of resource mapping is a consumed resource mapping.

23. Turner teaches monitoring resources consumed by a resource group relative to the reserved capacity ([0034]). It would have been obvious to one of ordinary skill in the art to track consumed resources by using a consumed resource mapping. One would be motivated by the desire to account for consumed resources as taught by Turner.

24. Regarding claim 9, Gao does not teach that first composite map relates to consumed resources and wherein the step of optimizing a time frame for allocating resources is based on the first composite map.

25. Turner teaches monitoring resources consumed by a resource group relative to the reserved capacity ([0034]). It would have been obvious to one of ordinary skill in the art to track consumed resources by using a consumed resource mapping. One would be motivated by the desire to account for consumed resources as taught by Turner.

***Allowable Subject Matter***

26. Claims 10-14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC C. WAI whose telephone number is (571)270-1012. The examiner can normally be reached on Mon-Fri, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng - Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Li B. Zhen/  
Primary Examiner, Art Unit 2194

/Eric C Wai/  
Examiner, Art Unit 2195